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ABSTRACT

A conceptual and empirical analysis of findings from the development of a comprehensive classroom-based, direct observational measure of classroom environment is presented in this paper. The System for Teaching and Learning Assessment and Review (STAR) differs from traditional instruments of direct, systematic classroom observation in that it assesses elements of both teaching and learning. Observation is based on four performance dimensions: preparation, planning, and evaluation; classroom and behavior management; learning environment; and enhancement of student learning. Findings demonstrate the usefulness of the instrument as a comprehensive measure of the total learning environment, applicable to the concept of learning environments as highly interactive, complex social systems in which both teachers and students actively participate in learning. The use of multimethod approaches to understand the complexities of classroom learning environments from multiple viewpoints is recommended. Appendices summarize the four performance dimensions and components of the psychosocial and physical learning environments. (42 references) (LMI)

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The System for Teaching and learning Assessment and Review (STAR): A Holistic, Classroom Observation Alternative To Measures of Student Perceptions for Research on Classroom Learning Environments

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The System for Teaching and learning Assessment and Review
(STAR): A Holistic, Classroom Observation Alternative
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Introduction

The formal study of classroom learning environment characteristics has a rich, but rather recent history. Major syntheses of research on learning environments (e.g., Fraser, 1986 and Fraser & Walberg, 1989) clearly show that selected learning environment characteristics demonstrate incremental validity in predicting student achievement, can be cross-culturally replicated, are useful in curriculum evaluation studies and can perhaps, provide teachers with useful information to improve classroom environment characteristics.

As early as the late 1960's, development of student perception measures of characteristics of the classroom learning environment became a concern in curriculum evaluation studies. The first noted attempts were those of Walberg & Anderson during the late 60's by their experimental evaluations of Harvard Project Physics. Perhaps the most publicized of these measures is the Learning Environment Inventory (LEI) and an elementary classroom derivative, the My Class Inventory (MCI) (Anderson and Walberg, 1974). A variety of other student perceptions instruments have been developed such as the Classroom Environment Scale (Moos, 1974) and the Individualized Classroom Environment Questionnaire (ICEQ)(Fraser, 1985). These and other student measures of classroom environment perceptions are designed to assess the "collective perspective" of psychosocial characteristics of the class as a whole. More recently, Fraser and Taylor (1990) have developed a classroom environment measure (Classroom Environment Study Student Questionnaire) (CESSQ) grounded in individual student's views of personal perceptions of the classroom environment...touted as being more grounded in "constructivist" perspectives than previous student perceptions measures. Thus, most research on and major reviews of the study of classroom learning environments (e.g., Fraser 1986) describe findings for measures of students' perceptions of the psychosocial characteristics of the class as a whole.

While this line of inquiry has been quite productive and useful, it seems rather limited in scope and methodology. A broader definition and perspective of what a "learning" environment really is seems needed...as well as means to measure interactive elements of the classroom learning environment while these are actually occurring. Such approaches are believed to "ground" the study of "learning" environment characteristics "in situ" rather than in historical, collective (or individual) perspectives of students alone. Direct, systematic classroom observation of the interactive nature and effectiveness of teaching and learning as well as the nature of psychosocial and physical elements of the learning environment seem like viable and ecologically valid alternatives to paper and pencil measures that have been typically used to date. Why has this methodology been lacking in the literature on the study of learning environments such as that reviewed over two decades by Fraser (1986)?

During the 1960s and into the 1970s, as student perception measures of classroom environment characteristics were being developed, a variety of classroom-based research studies of teaching "in vogue". Many of these used classroom observation instruments specifically designed to answer rather narrowly focused research questions or to examine isolated classroom variables. OSCAR, CASES, STARS, FLANDERS, and many other systems reflect this classroom research history. In addition, several major volumes have been devoted to compilations of these observation "checklists" and teacher and student behavior coding devices (e.g., Stallings' 1977 "Learning to Look"). Discussions of the limits of classroom observation systems (Stodolsky, 1987) have been entertained as they relate to teacher evaluation programs and a variety of debates have been ongoing about the use of "high" vs "low" inference measures of teaching (Rosenshine, 1970; Medley, Coker & Soar, 1984). Perhaps, these controversies have inhibited the exploration of using direct, classroom observation measures to study learning environment characteristics. Recently, there appears to be an emphasis on the importance of conceptualizing the measurement of effective teaching and learning to include a greater degree of professional judgment (Shulman, 1987) than found in most behavior description and coding devices used in the past. Thus, it

may be that we stand on a new era of developing comprehensive, classroom observation systems that will be far more useful in studying "learning" environments than those observation systems developed and used with some trepidation in the past.

This paper presents a conceptual and empirical analysis of findings from the development of a comprehensive classroom-based, direct observation measure of characteristics of the classroom learning environment. This system, called the STAR (System for Teaching and learning Assessment and Review) (Ellett, Loup and Chauvin, 1990), is considered among a new generation of assessments of both teaching and learning (Ellett, 1990) and is considered a step forward in the teacher evaluation literature because of its comprehensiveness and more student-centered focus than other classroom-based systems designed to meet teacher evaluation demands. Though the original impetus for the STAR was completing assessments for the professional certification of teachers in Louisiana, its most important future use may be in research studies designed to understand the interactive nature of learning environments "in situ." The sections that follow briefly describe the STAR, its conceptual grounding as a learning environment measure, empirical evidence supporting its psychometric properties, and some future directions for its use in the direct, systematic study of classroom learning environment characteristics.

Purpose

The purpose of this paper is to discuss the implications of conceptual and empirical analyses of results of two years of development and piloting a holistic measure of the quality of classroom learning environments. The primary objective is to propose and document the adequacy of alternatives to instruments traditionally used to conduct research on learning environments... alternatives derived from direct, systematic classroom observation.

System for Teaching and learning Assessment and Review (STAR)

One such direct , systematic classroom observation system is the STAR (Ellett, Loup & Chauvin, 1990. The STAR is a comprehensive, individualized, classroom-based observation and assessment system originally developed to meet requirements of the Louisiana Teaching Internship Law (1984) and the Children First Act (1988) that is grounded in some 15 years of development of classroom-based assessment systems (Ellett, Logan & Garland, 1987). These two mandates require a standardized, on-the-job assessment of all beginning and experienced teachers (45,000) in Louisiana beginning in the 1990-1991 school year for the purpose of new teacher support and renewable certification. The STAR focuses on the assessment of effective teacher performances, but more importantly, on social interactions between the teacher and students and among students, and students' interest in and engagement in learning tasks as well. The STAR is structured in four Performance Dimensions: Preparation, Planning and Evaluation; Classroom/Behavior Management; Learning Environment; and Enhancement of Learning. Each of these dimensions is operationalized by a series of from two to ten Teaching and Learning Components, and each of these is further defined by sets of assessment indicators. The total number of indicators is 117 and these represent the fundamental units of observation, assessment and decision making and they are considered representative "samples' of the various Teaching and Learning Components of the STAR. These assessment indicators do not represent a simple "checklist". But rather, they represent a holistic, integrated set of conceptions about effective teaching and learning from thorough, reflective, creative preparation and planning, to classroom implementation of various teaching methods and learning tasks designed to enhance student learning. These indicators reflect traditional teacher effectiveness variables grounded in the process-product literature (e.g., use of materials and aids, teaching methods, monitoring/maintaining appropriate student behavior, managing time, feedback, etc.) and some newer assessment concerns as well (e.g., teaching higher order thinking skills, content structure, knowledge of

content, pedagogy and curriculum and the quantity and "quality" of student engagement in learning). A copy of the overall organizational structure of the STAR is included in Appendix A.

Each of the assessment indicators is considered a "sample" of the larger Teaching and Learning Component and teachers are not expected to perform acceptably on all 117 indicators on every observation. For the vast majority of indicators, judgments relative to "acceptable" performances require assessors to make inferences about the relationship between teacher performances and students' active involvement and engagement in learning tasks giving consideration to context variables including the psychosocial and physical elements of the learning environment. The STAR represents a framework for making dichotomous, professional judgments about the effectiveness of teaching and learning using a combination of assessment indicators, written annotations for clarifying the meaning of (and providing special conditions for) the application of these indicators, and explicit decision making rules. A copy several assessment indicators as they are organized within the framework of Dimension III (Learning Environment) and within the two Teaching and Learning Components (Psychosocial and Physical Learning Environments) are included in Appendix B.

Those using the STAR are fully trained and certified in a comprehensive, seven-day program with multiple "proficiency" checks needed for certification. Some 3,700 educators were trained to do STAR assessments during the 1989-90 statewide pilot in Louisiana. In making decisions about the "acceptability" of each indicator, the assessor must attend to learning objectives, teaching methods and learning tasks, classroom context characteristics and most importantly, to student behavior. Each of these assessment concerns can be used to make inferences about the teacher's knowledge of pedagogy and content (and to some extent curriculum) and student's learning within the context of the actual classroom setting. The important focus for the assessor is student understanding and lack of confusion, and active interest, involvement and engagement in learning tasks structured by the teacher. The assessment process includes examination of a teacher-prepared Comprehensive Unit Plan (CUP) followed by a series of classroom

observations by school administrators, master teachers and "outside" assessors. First, as part of the STAR assessment process, the teacher develops an original Comprehensive Unit Plan (CUP) for a 5-7 day period of teaching and learning for one class of students. The CUP requires careful reflection on the hierarchical order and the structure and sequence of content knowledge and teaching methods and learning tasks, for each day of teaching and learning activity. In addition, the teacher must select and/or adapt teaching aids and learning materials and design "home learning" (not "homework") and formal student assessment tasks that enhance the development of thinking skills, and that accommodate the range of individual differences in students' abilities, needs and developmental levels. These broad-based preparation and planning concerns, when combined with semi-structured interviews, provide STAR assessors with rich opportunities to make inferences about a teacher's knowledge of pedagogy, content and curriculum and the interplay of this knowledge in planning for individual differences of student developmental and ability levels and unique needs to create an equitable learning environment for all students. Interview procedures with the CUP are currently being piloted which are providing rich information about how teachers view important elements of their classroom learning environment relating to accommodating individual differences among learners in the class.

In certification assessments, decisions about the "acceptability" of performance indicators in Performance Dimension I of the STAR are made with no pre-observation conference with the teacher. Thus, the teacher assessed needs to clearly identify elements in the written CUP document that reflect the assessment concerns of the STAR. In assessments of new intern teachers, elements of the CUP are independently assessed by team members and a team pre-observation conference is held with the intern as part of developing an initial support and professional growth system.

After the CUP assessment process is complete, three classroom observations of teaching and learning occur within the 5-7 day period of the CUP. One observation for a full period of a lesson is completed by each member of the STAR assessment team. If any minor adjustments need to be made

in objectives, activities, aids and materials and classroom context characteristics before an observation, the teacher informs the assessor during a brief, pre-observation discussion. Each assessor makes decisions about STAR performance indicators in Performance Dimensions II, III, and IV based on data systematically collected during classroom observations. STAR assessors receive extensive practice in taking quality classroom observation notes as they work through the assessor certification program. Practice includes developing an appropriate balance between observing and recording appropriate assessment information about teaching and learning (not just "scripting" the lesson), systematically scanning all students to develop a class index of engagement in learning and using shorthand procedures to maximize the amount of information collected during a lesson.

Of course, in any credible assessment process, classroom context factors need to be considered in making inferences about students' learning. A student that is ill or one that comes to the classroom upset by family conflicts, for example, can hardly be expected to approach learning tasks with the same motivation, interest and involvement as one that does not have these problems. Student characteristics relative to the STAR assessment context are established through a pre-observation discussion with the teacher. Assessors are reminded throughout the STAR to always be flexible and reasonable in considering context factors. "Flexibility" implies that no set of classroom context characteristics is the same and that all learning environments are unique. "Reasonableness" is guided by a general rule to "never hold teachers accountable for factors that are beyond their control.

Post-observation conferences are held between members of the assessment team and each teacher to provide assessment feedback and to structure plans for continuing professional growth. Thus, a component of ongoing development in enhancing learning for students is an integral part of the assessment process which is missing from a one-time tapping of student perceptions.

Conceptual Basis of the STAR

It is important to understand the underlying concepts upon which the comprehensive STAR system is based in order to make the necessary inferences about student learning that are required to assess interactions in the classroom. The STAR is a professional, contextually-based assessment and decision making framework and represents much more than a teacher evaluation "checklist." It is grounded in "common themes" and conceptual underpinnings that run throughout the system and that are repeatedly addressed in programs to prepare assessors. These themes include ideas such as: 1) all children can learn; 2) individual differences; 3) active involvement in learning; 4) higher order thinking skills; 5) positive psychosocial learning environment; and 6) student self-responsibility for learning/ and learning to learn.

The first common theme on which the STAR is based is the idea that ALL CHILDREN CAN LEARN. This simple statement says a lot about beliefs as they pertain to planning and implementing effective teaching and learning activities. If one believes that this statement is true, then the learning of every child becomes a teacher's professional obligation! This seems an important concern in Louisiana (and in some other states as well) given the status of current indicators of educational quality (e.g., high dropout rate, low ACT scores, large population of disadvantaged students, etc.). Thus, the classroom-based assessment begins with a focus on the importance of each student's learning and the kinds of things teachers can and should do to help assure each student's success. Of course, not all students learn at the same rate or at the same level of mastery. What's important is that each student recognize the value of his/her learning within the context of the classroom.

A related STAR common theme is STUDENT SELF RESPONSIBILITY FOR LEARNING and LEARNING TO LEARN. This theme is a reminder that students have an important role to play in their own learning and that effective teaching is more than delivering content to "receptive" learners. This theme also suggests the importance of communicating to students the significance of their roles as learners and the importance of teachers being innovative and creative as they design and implement methods and tasks to enhance student' learning.

A third common theme on which the STAR is based is a rather old one...INDIVIDUAL DIFFERENCES. No class of students is homogeneous! This theme plays out in the total STAR program in a variety of ways. Two very important ones are careful and reflective planning to accommodate individual differences in the developmental and ability levels and needs of students, and implementing teaching methods and learning tasks that are more than "teaching to the average". From the assessment perspective, these first three STAR common themes go together as important elements of reflective practice, careful and thoughtful planning, and accommodating individual differences by implementing a variety of creative teaching methods and learning tasks to provide an equitable learning environment for students.

A fourth common theme is TEACHING AND LEARNING AS A TOTAL PROCESS. Effective teaching is more than a series of "acts" and as pointed out by most teacher effects researchers and scholars, it is a unique combination of both "art" and "science" (Gage, 1972). The literature on teacher effectiveness provides a sound, scientific basis for the practice of some teaching behaviors. However, given the plethora of variables that describe contexts in which teachers teach, this literature is somewhat limited in prescriptive practice. If, for example, all the facets of the small cubes constituting a larger Rubik's cube defined a context unique to each cube (e.g., various combinations of student characteristics, class size, content/subject taught, grade level, time of year, teacher experience, available resources, and psychosocial/physical learning environment within and across each little cube), few of these small cubes would be filled with adequate knowledge about the best prescriptive practice. And yet, there do seem to be identifiable elements of effective teaching that are generalizable across the vast majority of teaching and learning contexts (e.g., quantity and pacing of instruction, classroom management, academic learning time, active teaching, quality of instruction, questioning, and feedback/knowledge of results.) However, teaching is an interactive process requiring constant monitoring, reflection, decision making and perhaps, unique expertise (Berliner, 1989) in order to create a classroom environment that encourages and facilitates

students' learning. If student learning is seen as a set of criterion-referenced behaviors that can be shaped to mastery of content and activities, then the teacher's appropriate role is one grounded in behavioristic notions. In such environments, the teacher is a monitor, and control of antecedent and consequent conditions for learning and the teacher "shapes" learning through the use of positive and negative reinforcements and response contingencies.

If learning is considered from a more cognitive or "constructivist" viewpoint (Magoon, 1977), the teacher's role in enhancing learning, by actively constructing and facilitating students' structuring and restructuring of knowledge, suggests a different perspective of both teaching and learning. From this latter perspective, the teacher's focus is not on "shaping" behavior and mandating "guided practice"; but on the enhancement of learning through the development of new "insights", "understandings", and "cognitive structures". Both views of learning are important. But, if one adopts a more constructivist view of student learning and teaching, classroom assessments need to be expanded to include these interactions.

Effective teaching and learning occur in social and physical environments and each of these environments has important assessment considerations. Thus, a QUALITY LEARNING ENVIRONMENT is another STAR common theme. The STAR addresses two learning environment elements: 1) Psychosocial and 2) Physical. The Psychosocial learning environment includes interpersonal relationships and personal communications between the teacher and students and among students and student groups as well. In addition, there is concern for each student's "personal learning environment" since each student's perceptions of the learning environment are unique. Thus, there is not one learning environment in a classroom, but as many learning environments as there are students. The notion of multiple learning environments among students in the same classroom reiterates the STAR common theme of INDIVIDUAL DIFFERENCES and the uniqueness of each learner.

The physical environment for learning is also an important part of classroom-based assessments with the STAR. The physical environment includes the utilization of available space, access to aids and

materials, physical accommodation of students with special needs (e.g., physical handicaps) and the functional arrangement of elements of the learning environment including the teacher and students. A physical learning environment that is safe, orderly and arranged in a manner that facilitates learning maximizes the available time for learning, and student engagement in learning tasks as well.

Another highly important common theme running through the STAR is THINKING SKILLS. There is a nationwide concern that students in our schools are primarily learning at low cognitive levels due to test-driven school curricula, standardized test policies reflecting concerns for increased educational accountability and teaching methods that center on factual knowledge that is too often "spoon-fed" to students. Certainly, learning basic information and facts is important in any content area. However, recent arguments have been made that there is a pressing need, as indicated in national concerns, for students to develop the ability to think analytically and critically, and to solve problems (Eisner, 1985). National trends in student performance results on standardized tests during the past few decades, comparisons of American educational productivity indices to those of other countries (e.g. Germany and Japan), and the need and benefits of teaching higher order thinking skills to at-risk and low achieving students (Presseisen, 1988; Smey-Richman, 1988; Costa, 1985), all suggest that enhancing higher order thinking should be a teaching and learning priority. Emphasis on the importance of teaching students to "think" occurs throughout the STAR assessment framework and process . . . beginning with the teacher's deliberate planning of teaching methods and learning tasks that target the development of higher order thinking skills. This emphasis is important, since teaching students to think has implications for the assessment of other elements of the total classroom learning environment. For example, structuring deliberate teaching methods and learning tasks that actively involve <u>all</u> students in the development of key associations, concepts, and principles and rules, communicates important messages about the teacher's personal caring and enthusiasm for <u>all</u> student' learning. As mentioned previously, "learning equity", is a critical and important element of creating a positive psychosocial environment for learning. Teaching

students to think independently also enhances the development of students' self responsibility for their own learning.

In teaching students to think, a variety of tasks can be structured that enhance both cooperative learning (Slavin, 1987) and the unique contributions of each student . . . regardless of students' past experiences and abilities. A key element of structuring learning tasks that requires students to think and another STAR common theme, is ACTIVE INVOLVEMENT AND ENGAGEMENT. This theme is important throughout the STAR, but it is a critical element of involving students in the development of concepts and skills that require generating, structuring, restructuring and transferring knowledge. Simply asking a few higher order questions or providing students with definitions and examples of concepts is not sufficient for students to engage in cognitive processes that enhance the development of thinking skills. Higher order thinking is a complex, active, cognitive process and the development of thinking skills requires students to engage in cognitive processes that go beyond simply receiving or recalling information in its final form. Thus, it is doubtful that most lessons designed to impart information from "me to thee" (e.g., lecture) effectively enhance the development of students' abilities to think. The STAR assessment framework includes a variety of assessment indicators that focus on both the "what" of thinking (e.g., associations, concepts, principles and rules) and the "how" of thinking (e.g., the use of wait time, cooperative learning and negotiation tasks, mental imagery, creative thinking, open-ended, divergent questions, elaboration of extension of student responses, and the application of current learning to different contexts).

A final common theme in which the STAR is grounded is the teacher's KNOWLEDGE OF PEDAGOGY, CONTENT AND CURRICULUM. Shulman (1986; 1987) discusses a variety of important perspectives on knowledge growth in teaching and the significance of teacher knowledge as it relates to effective practice. Teaching is complex and purposeful, and effective teaching is more than simply having command of "knowledge of the subject" or "knowing how to teach". The interplay between the breadth

and depth of knowledge of content, pedagogy and curriculum and the enhancement of student learning, and the ebb and flow of relationships among the teacher and students creates the "adaptive dance" of effective teaching.

In making assessments with the STAR, assessors must attend to the interactive nature of teaching and learning in the total classroom learning environment. For example, a teacher might structure content adequately while communicating content to learners in a manner that is "dry" in affect and impersonal. Alternatively, a teacher might be "fuzzy warm and enthusiastic" in attempts to create a positive social climate in the classroom and waste important learning time. Similarly, a lesson might proceed with a very positive social environment for learning with positive interpersonal interactions and low level content teaching and learning that does nothing to develop students' abilities to think. With the STAR, assessors must attend to the interactive nature of teaching and learning as it actually occurs. The STAR is based on the conception of effective teaching as a professional activity and "adaptive dance" that targets the enhancement of student learning within a complex social learning environment (Ellett, 1990).

Empirical Basis of the STAR

During the initial years of development and piloting (1989-1990) a variety of research studies have been completed with the STAR. These include: a series of factor analyses of large sets of classroom observation data (Loup, Ellett and Chauvin, 1989; Chauvin, Loup & Ellett, 1990); studies of the generalizability (reliability) of STAR assessments using multiple observers on multiple occasions (Teddlie, Ellett & Naik, 1989; Ellett, Teddlie & Naik, 1990); criterion-related validity studies using student perceptions of the class, class engagement indices and student achievement on teacher-made tests as criteria; school-level implementation studies (Lemaster, Tobin & Bowen, 1990; Tobin, 1990); differential validity studies of "superior" and other teachers (Loup, Ellett, Chauvin & Naik, 1990); case studies of student and beginning teachers (Hill, Lee, & Lofton, 1990); content verification studies (Logan, Ellett &

Naik, 1990; Hill, Claudet, Chauvin, Loup & Naik, 1990); and studies of performance standards (Lofton, Ellett, Loup & Chauvin, 1990).

Of interest related to the study of learning environments are the criterion-related classroom-based validity studies (Ellett, Loup, Chauvin, & Naik, 1990, and Ellett, Lofton, Chauvin, Loup & Claudet, 1991) using STAR assessment data, student perceptions measures of the learning environment and, indices of student achievement on teacher made tests have which been conducted in an ongoing manner to answer important questions about the relationship between actual, classroom-based assessments of teaching and learning and important student-related variables. For example, 1) is there a relationship between STAR assessment data and psychosocial characteristics of the classroom learning environment known to be related to student achievement? 2) Is there a relationship between the queality of teaching and learning as assessed by the STAR and subsequent student engagement in learning tasks and academic achievement? Initial invesigations of the criterion-related validity of the STAR have used three validation criteria: 1) student perceptions of the psychosocial characteristics of the learning enviomment; 2) class engagement rates; and 3) student achievement gains on teacher-made tests.

In the initial validity studies, student perceptions of psychosocial elements of the learning environment were assessed using three paper and pencil measures: 1) the My Class Inventory (MCI) (elementary students), 2) Learning Environment Inventory (LEI), and 3) the Classroom Learning Environment Scale (secondary students). The MCI and LEI have been used in some twenty years of research at the classroom and school level and are known to be valid and reliable indices of students' collective perceptions of psychosocial elements of the classroom learning environment. The CLES (Fraser, 1990) is a more recently developed measure of student perceptions of the classroom learning environment from the students' personal and more "constructivist" perspective.

In addition, class indices of the quantity of students' engagement in learning activities have been used in STAR validation research. Indices of the quality and intensity of engagement (high, middle, and low) have been used in addition to quantitative indices.

Student achievement has been measured by computing a gain index for each class derived from pre and post testing all students in each classroom using teacher made tests (TMT).

Results of the initial STAR criterion-related validity studies have been reported in detail elsewhere (Ellett, 1990, Ellett, Lofton, Chauvin, Loup & Claudet, 1991) and are not reported here. However, general findings from the studies show the following:

1) Indices of student engagement in learning tasks show the greatest validity with components in the STAR. Since class engagement rate in past research had typically been the most consistent predictor of student achievement on standardized tests, use of these estimates may represent the best "proxy" measures to make inferences about student learning during STAR assessments.

2) Indices of quality of student engagement showed an inverse relationships with STAR scores for virtually all of the teaching and learning components. These correlations suggest that teachers scoring higher on the STAR have classroom environments in which student engagement is maintained at high rates with high quality and intensity.

3) A majority of STAR Teaching and Learning Components were significantly related to student achievement gain on teacher made tests. Whereas, subscales on student perceptions instruments used revealed some relationships.

4) Results of intercorrelations of the student perceptions measures with STAR component scores were somewhat disappointing. A number of significant significant relationships were noted for MCI and LEI subscales of Cohesiveness and Friction. For the CLES subscales, a few STAR componenets showed significant relationships with Reflection, Prior Knowledge and Autonomy. It should be noted, however,

that using class means for CLES subscales may violate the assumptions of the instrument as an individual student perception measure.

Considered collectively, these studies support the psychometric properties of the STAR (validity and reliability)...but more importantly, they suggest the STAR can be used as a comprehensive, classroom-based system for the assessment of comprehensive "learning" environment characteristics. To date, the STAR has been used with few exceptions to applicability to context in some 7,000 classroom assessments. During the 1989-1990 pilot, the STAR assessments were completed by trained assessors in every public school building in Louisiana.

Observing/Assessing Learning Environments with the STAR

The STAR assessment framework represents a holistic view of the teaching and learning environment which actually begins with reflective planning and extends to reflecting in the classroom in making those moment-to-moment decisions that accommodate individual differences and enhance learning for students. It involves more than students' perceptions of the classroom learning environment. The interrelationship of reflective planning and classroom events, which involve teacher and student interactions as well as interactions between and among students, provides a comprehensive "portrait" of the classroom learning environment from multiple perspectives (teacher, students, observers).

The STAR makes several assumptions about student learning that help guide the assessment process. These assumptions are rather simple and they do not represent brand new ideas about human learning. However, they have important implications for the observational focus and for creating an environment that is conducive to learning. There are many obvious student behaviors from which inferences about learning can be made. First, learning takes place best when students are actively involved. This implies that, for the most part, that the larger the number of student response mechanisms involved in a learning task, the greater the degree of learning. For example, while one might learn

vicariously from simply watching others, learning is enhanced when watching is followed by, or perhaps combined with, overt practice.

Second, learning is enhanced when clear task structure is communicated to students. Knowing "what to do and how to do it" is an important element of the efficient utilization of time and subsequent learning. This does not mean that all learning must follow a particular method or model! It simply means that learning tasks, whatever method or model might be followed, need to be sufficiently structured so that students know where they are going with their own learning.

Third, learning is enhanced when students are attending and are motivated to become involved in the learning task. Attention to tasks and motivation to learn are not always under the direction of the teacher. By their very nature, some learning tasks (e.g., video games) solicit student attention and motivate students to inquire and subsequently learn. Fourth, learning is enhanced when individual differences among students are accommodated by the various teaching methods and learning tasks used. Selecting and structuring teaching methods and learning tasks that address variation in students' developmental levels, needs and abilities also creates an "equitable" learning environment.

Fifth, learning is enhanced with specific feedback about adequate and inadequate performances is provided. Feedback and "knowledge of results" are old, but important ideas in classroom learning. If feedback is to enhance learning, however, it should be specific to the learner or group of learners and 77specific to students' responses. To further enhance learning, feedback may need to be followed by informal assessment of learning, probing for the basis of misunderstanding and encouragement to persist in the learning task. Feedback does not always have to be under control of the teacher. Students can participate in learning tasks that encourage them to provide feedback to each other as well.

Sixth, learning is enhanced when students are engaged in thinking at higher cognitive levels. Of course, the number and kind of cognitive levels vary with a host of classroom context variables such as

student characteristics, lesson objectives, prior learning and so on. Lessons that proceed at predominantly one cognitive level are, in most instances, to be avoided.

And seventh, learning is enhanced when learning tasks are meaningful to students. Meaningful learning occurs when students can relate past, present and future learning (transfer), and when students can integrate, interpret and extend learning to different contexts. A variety of contexts are possible including personal or "real life" experiences, parallel subject matter and new learning tasks.

There are multiple opportunities throughout a lesson to collect information about student learning. The STAR assessor must attend to what the teacher says or does. However, and most importantly, student responses to learning tasks are environmental. "It matters not which teacher behaviors are demonstrated, if students do not learn." There are a variety of student verbal and non-verbal behaviors that can be used to make reasonable inferences about student learning, or the lack of it. The examples that follow represent only a partial list:

1. Student responses to questions (these may be correct, incorrect, may vary in degree of correctness or may not occur at all)
2. Student interactions with materials (e.g., worksheets, equipment, chalkboard)
3. Student expressions of bemusement and/or confusion
4. Student questions and comments to either the teacher or to other students (these may be on or off target or may not occur at all)
5. Extent and degree of participation in small group activities.
6. Facial expressions and behaviors indicating frustration and boredom
7. Drowsiness, sleeping and perhaps crying
8. Student interest, "excitement" and involvement in learning tasks
9. Facial expressions indicating intensity of concentration and involvement n tasks
10. Clarity and correctness of student explanations, examples or the sequence of steps to be followed in a learning task.

11. Obvious examples of unacceptable behavior (e.g., interfering with the work of others, playing with gadgets, etc.)

12. Lack of attention to learning tasks (e.g., staring out the window or at the ceiling)

13. Passive involvement in, or reluctance to participate in learning tasks (e.g., remaining "tangential" to learning or on the "periphery" of the learning task while others actively participate)

14. Student-generated questions (and subsequent responses, or lack of them, the teacher or other students)

15. Student-generated digressions or other kinds of delays

16. Slow movements or disorganization during transitions or classroom routines necessary for learning that waste time

17. Sitting quietly and doing nothing for a significant amount of time after completing a learning task

18. Slow pace in beginning or completing learning tasks

19. Student "chatter" and conversation that has little to do with the topic or task at hand

20. Negative student reactions to ineffective or inappropriate teacher discipline, demeaning comments, sarcasm and the like (i.e. those reactions that disengage the student from learning)

21. Student responses that are followed by little specific or diagnostic feedback

22. Short wait time between teacher questions and student answers or vice versa

23. Student responses (at any cognitive level) that are predominantly recall of past learning (little new learning is occurring)

Each of these examples can be observed and assessed in almost any teaching and learning context. Of course, these are not isolated, independent events and in many instances, these student behaviors can occur in various combinations in a short period of time. Obviously, in a classroom where these examples are rampant, learning is not being adequately enhanced and teaching and learning are not effective. The important point for the assessor is to "tune in" to these important student behaviors as part of the assessment process to make subsequent inferences about the quantity and quality of the environment in which students are learning. When these student behaviors can be documented concomitantly with the

behavior of the teacher, a powerful description of the "connectedness" between teaching and learning within the classroom context can be made. Depending upon the patterning of the data collected and the contextual factors framing the assessment, a variety of implications and suggestions for improving teaching and learning usually emerge from the assessment data. Considerations of these kinds of student behaviors and "effects" are found throughout the STAR annotations and decision making rules. They serve to remind the assessor that a simple focus on what the teacher says or does is not sufficient to assess effective teaching and learning.

As one peruses and thinks about the student behaviors listed above, these behaviors (both singularly and in various combinations) reflect the basic assumptions about student learning in which the STAR is grounded. Each of these student behaviors and effects is directly observable, and each can be used to make inferences about student learning. Of course, the more frequently and intensely they occur, the stronger is the inference that can be made about learning, or the lack of it.

In the STAR assessment process, the first opportunity to address learning environment concerns is in the teacher's composition of the Comprehensive Unit Plan (CUP). This process allows a teacher to creatively and reflectively structure content, methods and tasks, time allotments, aids and materials, formal assessment and evaluation and homelearning to accommodate the range of developmental and ability levels of students and their unique needs. The idea of "accommodating the range"of student needs, developmental and ability levels is of clear concern in structuring learning environments in which students can be successful and is one of the common themes upon which the STAR is based.

In development of a class profile, the teacher has an opportunity to describe the unique context of the learning environment in the class in order to "paint" a clear picture for the assessor. Some inferences about the teacher's knowledge of students' individual differences and how to accommodate the range of these differences in structuring a comprehensive plan for the interplay of teaching and

learning are made by the assessors in considering decisions for indicators in Performance Dimension I, Preparation, Planning and Evaluation.

Thus, the CUP is an opportunity from the perspective of the teacher to create an optimal learning environment for students. For example, in designing home learning assignments for students (Teaching and Learning Component I.E), availability of home resources is a consideration (as some students may not have access to a VCR unit) as well as prior learning experiences and abilities (as some students may need more practice and time to acquire new knowledge than other students). Home learning assignments should be differentiated and/or varied to accommodate individual differences among students. Assigning the same home learning tasks typically to all students is a concern related to creating an environment (of which the home is an extension) in which students can experience learning success.

Creating an environment that not only is equitable but that enhances a student's ability to think through generating, structuring and restructuring information is a concern both in designing teaching methods and learning tasks (Teaching and Learning Component I.B) and in implementing these activities in the classroom (Performance Dimension IV, Enhancement of Learning). Teaching methods and learning tasks are planned to stimulate a variety of cognitive processes. Teachers can "pick and choose" various methods and tasks to enhance the development of thinking skills to fit classroom context characteristics, lesson objectives on a particular day and so on. The range and complexity of these activities planned to stimulate thinking may vary with student developmental and ability levels, again reinforcing the conceptual thread of "accommodating the range" of individual differences. Communicating the message that there are unlimited possibilities reminds teachers to think themselves, as they prepare various techniques to enhance students' abilities to think. In addition, teachers are reminded that the development of thinking skills is a priority for all students, including at-risk and disadvantaged students (Presseisen, 1988), not just the "bright students."

Effectively carrying out these planned methods and tasks in a meaningful way to actively involve students in thinking processes is addressed in direct classroom observation (Performance Dimension IV, Teaching and Learning Components IV.B, Teaching Methods and Learning Tasks and IV.E, Thinking Skills). The interrelationship of planning with classroom observation of student/teacher, teacher/student and student/student interactions provides a holistic and comprehensive perspective of the classroom learning environment from multiple outside sources.

A significant element of creating and maintaining a classroom environment in which learning is valued is maximizing time for learning. Time management concerns are addressed in reflectively thinking through teaching methods and learning tasks in terms of both complexity and the range of student abilities and needs and allocating appropriate amounts of time for the implementation of these activities in the classroom (Performance Dimension I, Teaching and Learning Component I.B). Time for learning is maximized by initiating teaching and learning activities promptly, implementing transitions without delays, efficiently handling routine tasks and avoiding undesirable digressions from topics or learning activities (Performance Dimension II, Teaching and Learning Components II.A, Time and II.B, Classroom Routines). Further maximization of time requires reflection in decision making in the classroom. Maintaining this focus on learning requires awareness of time delays and managing these in a way that enhances learning for all students. If a student has a particular contribution to the class, he/she should feel that his contribution is important (Performance Dimension III, Psychosocial Learning Environment), but if the handling of the contribution causes a digression from the topic or the teacher is not using it as a "teachable moment," time for learning is wasted. The desired effect in management of such delays is to conserve learning time for all and to acknowledge individual student contributions in a way that creates the "affect" necessary for continued willingness to participate.

Perhaps the most prominent, proxy measure of student learning and subsequent achievement that can be derived from direct classroom observation is the class engagement (in learning tasks) rate. In the

STAR assessment process, assessors conduct periodic scans of students and make tabulations of the number of students that are "off task" (not engaged in learning). The judgment about each student can be considered a sample data point for building the overall class engagement rate index. In most STAR asssessments, a minimum of ten scans and tabulations per lesson are made. Most novice assessors share concerns about determining whether a student is "really on task or not". This concern for error in judging a students' engagement in learning is tempered by the fact that multiple scans of the entire class are made in a STAR assessment. Thus, errors of "omission and commission" tend to counterbalance one another over the course of multiple scans and a relatively reliable numerical index of the engagement rate of the class can be obtained. From the perspective of sampling theory, the important point is to make a sufficient number of scans and to collect enough dta to build an engagement rate index that is reliable.

The current procedure uses ten total scans in a class period. The length of the scan interval is determined by the total length of the class period. In a thirty minute lesson, for example, scans will be completed at approximately 2.5 minute intervals. In a fifty-five minute lesson, scans might be completed at a five minute intervals. STAR assessors use a set of observation rules and record the number of students "off task" during each scan. Data for all scans are then used to build a proportional index of the engagement rate of the class as a whole. This procedure and index is an important one given the well-documented, positive relationship between class engagement rates and subsequent learning and achievement.

In addition to the "quantity" of engagement, STAR assessors are also concerned with making estimates or documenting the "quality" of student engagement in learning. This is also an important concern, because quantitative indices of engagement may be quite high when the quality of engagement is minimal. For example, students may be only "casually" listening to what the teacher says, rather than "intensely" listening to the teacher while taking "careful" notes, asking "pertinent" questions and providing "meaningful" answers. In both observation instances students can be judged as "engaged in learning."

However, differences in the quality of engagement and subsequent learning in these two instances seem obvious. Interestingly, an index of "low quality" engagement has been shown to significantly and inversely correlate with STAR teaching and learning component scores and student achievement on teacher made tests (Ellett, et al., 1991).

While the engagement rate of the class as a whole may be quite high (e.g., 95%), one or more students may remain persistently off task throughout the lesson and their learning time is wasted. Thus, the teacher needs to monitor and manage the task-related behavior of all students because the learning of each student is important.

Creating a supportive classroom climate through positive interpersonal relatinships between the teacher and students, and among students as well, is important to facilitate the interaction of teaching and learning in the classroom (Performance Dimension III, Learning Environment). The Psychosocial component of the STAR reflects concerns related to a climate in which courtesy and respect and appropriate levels of warmth and friendliness exist, interactions that are free of (none) derogation, sarcasm, demeaning comments or ridicule, enthusiasm for teaching, learning and the subject is communicated to students, adequate opportunities for all students to participate are provided ("learning equity"), contributions of all students are recognized, the dignity of all students is maintained, the lessons are personalized for student as appropriate, and fairness and impartiality in interactions with and among students in reasonable and equitable ways are evident.

Of particular concern is the communication of enthusiasm about teaching, the subject and learning to students. (Assessment Indicator III.A.4) This latter element of teacher enthusiasm may be the most important of all. A positive psychosocial learning environment is enhanced when students receive "messages" from the teacher that "I care about, and am enthusiastic about, your learning." Communicting interest in and excitement about students learning, participation and contributions, rather than one's own

teaching is, typically missing from everyday life in classrooms and is one of the most frequently cited reasons given by students for dropping out of school: "No one cared about my learning."

Enthusiasm for students' learning can be demonstrated through providing positive and specific feedback about students' responses, probing for the bases of misunderstanding, providing opportunities for participation and thinking at different levels and in different response modes relative to needs and abilities, etc., all of which are elements that run through STAR Performance Dimensions I-IV.

Establishing and maintaining an appropriate physical environment for learning is much more than "keeping a neat classroom." Past research studies indicate that teacher's who are effective managers of the physical environment for learning arrange for the functional inclusion of such things as student activity stations, bulletin board displays, materials storage, etc. in a manner that facilitates learning (Doyle, 1986; Good & Brophy, 1984). Studies by Goss and Intersoll (1981) and Anderson, Evertson and Emmer (1979) demonstrate that a well-deinfed physical classroom structure positively correlates with student engagement in learning tasks. Appropriate arrangements of the teacher and students enhance many elements of pedagogy, including monitoring and maintaining on-task behavior and preventing and diffusing unacceptable behavior, thus overlapping with concerns in Performance Dimension II and IV.

The name of STAR Performance Dimension IV, "Enhancement of Learning," implies that the teacher's role is one of a facilitator and guide for learning, rather than an "instructor," "trainer," or "deliverer of content." The focus on learning "tasks," implies that all tasks need some deliberate structure (including "discovery" lessons), and that students learn best when they are actively involved and when they take some responsibility for their own learning.

Perhaps the most important idea in this Dimension is the structuring of a learning environment to develop critical skills for thinking. In enhancing students' abilities to think, the teacher deliberately structures and uses teaching methods and learning tasks that ACTIVELY INVOLVE STUDENTS in ample opportunities to develop concepts and skills in generating, structuring, transferring and restructuring

knowledge. Thinking is an active, cognitive process and represents much more than soliciting information from, or presenting information to students, in its final form. Although there is a large body of literature in teaching higher order thinking skills and considerable debate about thinking skill anc curriculum issues (Prawat, 1991), no particular set of tasks or specific strategies can be prescribed for each context in which teachers function. However, there are some generalized ideas about teaching thinking skills that "speak" to teachers and these ideas can be applied to almost all contexts. These concerns relate back to several conceptual threads running through the STAR. Consideration of active involvement, individual differences, student self responsibility for learning and learning to learn, and the teacher's knowledge of content, curriculum and pedagogy, begin with, planning and play out in the classroom as they are utilized in teaching methods and learning tasks with students.

Performance Dimension IV (Enhancement of Learning) addresses the teacher's transformation of the planned learning environment into operation to broaden understanding and enhance learning in the classroom through the use of; 1) teaching methods and learning tasks; 2) aids and materials; 3) knowledge of content to emphasize purpose, importance, essential elements and to clarify; 4) activities involving thinking to actively involve students in higher level cognitive processes; and 5) techniques of feedback, monitoring and informal assessment in making moment-to-moment decisions to reinforce, probe and adjust as appropriate for the needs and ability levels of students.

Thus, the STAR processes involve meshing of multiple sets of data to provide a comprehensive, interactive "portrait" of the teaching and learning enviornment "in situ."

Discussion/Implications

This paper has described the development and application of a comprehensive observation system to assess important elements of the teaching and learning environment. In an attempt to expand future research on the study of learning environments, the STAR has been offered as an alternative to the more traditional means (student perceptions) to examine learning environment characteristics. How can an

observational system such as the STAR contribute to the future study of learning environments? What issues are raised when comparing STAR observational processes/data to the more traditionally measured student perceptions of the learning environment?

The STAR is focused on not only teaching effectiveness, but more importantly on the nature of social interactions and student learning in the classroom. This focus provides considerable support for its utility as a comprehensive, "in situ" measurement of important elements of the total learning enviironment...not the more narrow measurement of student perspectives of psychosocial properties of the classroom environment. While these student perspectives are important and have contributed to our understanding of learning environment characteristics, they are nevertheless rather limited. Perhaps a few examples and case scenarios can help make this point clear.

Most traditional measures of the classroom environment using students perceptions, though valid and reliable, may be somewhat limited in focus when one considers the interplay of the multitude of factors which affect learning on a daily basis in the classroom. For example, a student may perceive the class as difficult because" the work is hard to do" as evident in some student perceptions subscales. This simple statement provides limited diagnostic information as to why he/she perceives the learning environment as difficult. How can such general information provide a teacher with specific feedback about that particular student's learning?

Having an observer record information in the classroom during the process of teaching and learning and using a system such as STAR to make inferences about the quality of these processes can provide a teacher with specific examples which extend a student's perception of "difficulty." For example, an observer may have recorded that during the teacher's explanation of learning tasks, this student and several other students seemed "puzzled" as observed through non-verbal clues. The teacher did notice these clues, went on with explanation to the bewilderment of many students, and subsequently was forced to spend a significant amount of time attempting to clarify for a large number of students, many of whom

remained confused. Thus, the student's perception of the work as "hard to do" was really a problem with the teacher being clear with directions, monitoring, adjusting the pace, clarifying, etc. A simple awareness of these issues can help teachers develop broader insights into factors that create more optimal learning environments for students. Feedback from student responses to more traditionally used student perceptions measures seem rather limited in this regard. Though students' perceptions are one way of capturing a view of the classroom environment, they are by no means an indication of the complete learning picture. Adapting direct observational systems such as to STAR can be helpful in interpreting environments for learning, since data are collected as learning takes place within the interactive classroom context.

As a further example of the limitations of student perceptions measures, consider the following two scenarios in which 8th grade students are working through the the problem solving processes of addition, subtraction, multiplication and division using practical problems of everyday living. They are involved in associating clues that signal specific problem solving strategies using whole number operations.

Scenario Number One

Students' learning tasks involve completing problems from the text or workbook, and exchanging and checking answers.

Scenario Number Two

Tasks in this scenario involve the practical application of problem solving strategies. Students, in groups of two, complete 5 math problems related to classroom experiences (e.g. averaging grades, calculating average daily attendence) and explain to each other why they got the correct answer, analyze why they might have gotten the wrong answer, and compare and contrast alternative ways of arriving at the same answer. The teacher encourages each student to create his/her own word problem reflecting on his/her own recent experiences (e.g. budgeting allowances, calculating gas mileage and related costs, shopping in the mall, etc.). Students are allowed to exchange and solve each other's problems. Followup

includes allowing pairs of students to explain to each other how they solved each other's problem comparing and contrasting alternative ways of arriving at the same answer.

One now considers making inferences about the classroom environment in each of these classes, first using student perceptions measures and secondly using direct classroom observation.

In the first scenario, students may perceive the classroom environment as having elements of difficulty if they really don't understand how to solve the problems. They may percieve that students are working together in a cohesive way in the checking of answers, yet they may not recieve specific feedback about right or wrong answers and have problems in learning from mistakes. They may perceive that some students compete for the right answers, but may also find comfort in the lack of friction involved in simply marking the answer as right or wrong. Indeed, these students "like" their class, but what do these elements of the environment really say about their learning?

Classroom assessment data with a diagnostic systems such as the STAR, could provide data which would expand on student perceptions of difficulty in the first scenario. For example, students may perceive learning tasks as difficult for a host of reasons such as; 1) lack of understanding because directions and explanations are not clear; 2) probing for bases of misunderstanding is absent; 3) students are being "spoonfed" with lack of active construction of their own learning; 5) because students don't have the grounded knowledge in associations of previous learning to understand the operations and how to transfer them to other situations; and 5) for a variety of other observable events. All of these events are directly observable through monitoring student and teacher interactions in the classroom with the STAR.

Considering the second scenario, students could possibly perceive this class in exactly the same way as those in the class in scenario number one. Yet, in just reading a description of the teaching and learning activity, one suspects that something very different is happening. Students are actively involved in generating, structuring, restructuring and transferring information and constructing their own learning. If this activity is operationalized in a way that enhances the learning of students, an observer can directly

assess active involvement of students in thinking, as they interact in cooperatively designing problem situations for which they are to think through alternatives. Students may perceive the class as difficult because it is challenging, but difficulty alone can lead to frustration if, ultimately, students don't feel that they can be successful. Difficulty may not directly translate into learning. Data from direct classroom observations with the STAR provide information related to how a teacher sets task structure, challenges and motivates students, monitors and probes for the bases of misunderstandings, uses aids and materials that broaden understanding and enhance involvement in learning tasks, provides appropriate feedback for learning, allows students to construct and reconstruct their own understandings, and shows enthusiasm for students' learning, and manages students responses in a way that encourages further involvement , etc. These examples relate to the actual management of difficulty in an ongoing way to ensure success in learning for students' individual differences, thus they add perspectives about the interactive process of both teaching and learning from a trained observer's viewpoint rather than from students' perceptions alone.

The two scenarios and the example provided above raise important issues and concerns about the measurement of learning environments. If classroom learning environments are viewed as highly interactive, complex social systems in which both the teacher and learners are importantly engaged in learning, then assessments of only student perceptions of psychosocial properties of the class with "one-shot", summative, paper and pencil measures alone seems a rather limited focus for future research studies on learning environments.

Research and development activities with an observational system like the STAR have clearly shown that learning environments are rich in data that go far beyond the more traditionally used paper and pencil measures. In addition, two studies correlating the STAR with popular student perceptions measures have yielded rather mixed results with the general finding of few, significant relationships between observers

depiction of events "in situ" in classroom learning environments with the STAR and students perceptions of learning environments (Ellett, 1990; Ellett, et al., 1991).

While the past study of classroom environments using student perceptions measures has been important from the theory development and improvement of practice perspectives (Fraser, 1986), what seems needed is a series of future studies that will allow researchers to "tease out" the perspectives of students, teachers, external observers and perhaps others. Multi-method approaches, including teacher interviews to gain additional perspectives, might yield important information about the learning environment characteristics from several sources and about the contributions of these contributions to subsequent student learning.

From a phenomenological point of view, it may well be that perception is "reality" and that there are far more realities in the richness of classroom life than those typically shared by students. Certainly the examples/scenarios offered above serve to highlight the importance of adding systematic classroom observation processes to further operationalize what student perceptions of the learning environment might mean in terms of everday classroom events. This approach has corollaries in other disciplines such as astronomy, field anthropology and more recent approaches to understanding effective teaching (Shulman, 1988; Berliner, 1989) as well. Perhaps newer methods that center on "cross checking" perspectives can broaden our future understandings of the complexities of classroom learning environments from multiple viewpoints, using multiple methodologies.

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APPENDIX A

S T A R

System for Teaching and Learning Assessment and Review

PERFORMANCE DIMENSION I: PREPARATION, PLANNING, AND EVALUATION (26)a

TEACHING AND LEARNING COMPONENTS

A. Goals and Objectives (4)b
B. Teaching Methods and Learning Tasks (4)
C. Allocated Time and Content Coverage (4)
D. Aids and Materials (4)
E. Home Learning (3)
F. Formal Assessment and Evaluation (7)

PERFORMANCE DIMENSION II: CLASSROOM AND BEHAVIOR MANAGEMENT (23)

TEACHING AND LEARNING COMPONENTS

A. Time (6)
B. Classroom Routines (4)
C. Student Engagement (1)
D. Managing Task-Related Behavior (6)
E. Monitoring and Maintaining Student Behavior (6)

PERFORMANCE DIMENSION III: LEARNING ENVIRONMENT (13)

TEACHING AND LEARNING COMPONENTS

A. Psychosocial Learning Environment (10)
B. Physical Learning Environment (3)

PERFORMANCE DIMENSION IV: ENHANCEMENT OF LEARNING (55)

TEACHING AND LEARNING COMPONENTS

A. Lesson and Activities Initiation (8)
B. Teaching Methods and Learning Tasks (6)
C. Aids and Materials (6)
D. Content Accuracy and Emphasis (6)
E. Thinking Skills (11)
F. Clarification (4)
G. Monitoring Learning Tasks and Informal Assessment (6)
H. Feedback (4)
I. Oral and Written Communication (4)

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a Number of Assessment Indicators Comprising Performance Dimension

b Number of Assessment Indicators Comprising Teaching and Learning Component

APPENDIX B

PERFORMANCE DIMENSION III: LEARNING ENVIRONMENT

Providing an environment conducive to learning is an important dimension of effective teaching. The total classroom learning environment encompasses both psychosocial and physical elements. Psychosocial elements of the learning environment include the individual and collective perspectives of the teacher and students. Thus, each student's perceptions of characteristics of the classroom learning environment are important concerns. In a supportive learning environment, students are treated fairly and with courtesy and respect and enjoy a relaxed and accepting atmosphere. The teacher is warm and friendly toward students and demonstrates enthusiasm for teaching, learning and the subject being taught. Motivational techniques are used throughout the lesson and praise is specific to students and to learning tasks. Personalizing the lesson for students and encouraging all students to participate enhance student involvement in learning. A neat, safe and orderly classroom environment facilitates effective teaching and learning.

TEACHING AND LEARNING COMPONENTS

III.A. Psychosocial Learning Environment

III.B Physical Learning Environment

TEACHING AND LEARNING COMPONENT III.A: PSYCHOSOCIAL LEARNING ENVIRONMENT

COMMENTS: Effective teachers actively encourage positive interpersonal relationships in a classroom environment where students feel comfortable and accepted. The teacher, through verbal and nonverbal behaviors, models enthusiasm and interest in learning, includes all students in learning activities, and encourages active involvement.

RESEARCH BASE

Soar and Soar (1972) have shown that a positive classroom climate characterized by reasonable teacher warmth and friendliness facilitates student learning whereas a negative classroom climate or too much teacher warmth and friendliness inhibits subsequent student learning. Support for the connection between teacher enthusiasm and student achievement is evident in studies concerning the psychosocial learning environment. Walberg, Schiller, and Haertel (1979) suggest that high student achievement and teacher enthusiasm are positively correlated. Similarly, Keith, Tornatzky, and Pottigrew (1974) indicate that cheerful, enthusiastic teachers promote responsive and engaged students. Additional studies point out that positive, supportive relationships between teachers and students with an emphasis on active student participation promote good student morale, interest in subject matter, and enthusiasm for learning (Fraser, 1986; Haertel, Walberg & Haertel, 1981; Moos, 1979).

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TEACHING AND LEARNING COMPONENT III.A: PSYCHOSOCIAL LEARNING ENVIRONMENT

ASSESSMENT INDICATORS	ANNOTATION	NOTES/CLARIFICATION
III.A.1 Establishes a classroom climate of courtesy and respect	Courtesy and respect within the classroom environment are demonstrated through statements to or about students and through positive interactions with and between students. Acknowledging and demonstrating respect for students' comments and ideas, listening to students without interruption, encouraging students to learn cooperatively, and fostering politeness through the use of phrases such as "please," "thank you," and "excuse me" are examples. **ONE OR MORE INSTANCES OF OBVIOUS DISCOURTESY AND/OR LACK OF RESPECT ARE SUFFICIENT TO ASSESS THIS INDICATOR AS UNACCEPTABLE.**	
III.A.2 Warmth and friendliness are demonstrated throughout the lesson	Warmth and friendliness are key indicators of a positive psychosocial learning environment. Warmth and friendliness are demonstrated in several ways: using student names; maintaining eye contact while interacting with students verbally; speaking with a positive tone of voice; smiling, laughing, and joking appropriately; and sitting or standing near student(s). **IF WARMTH AND FRIENDLINESS ARE NOT COMMUNICATED ADEQUATELY TO STUDENTS OR IF THESE BEHAVIORS ARE OVEREMPHASIZED SO THAT TIME FOR TEACHING AND LEARNING IS WASTED, THIS INDICATOR IS UNACCEPTABLE.**	

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TEACHING AND LEARNING COMPONENT III.A: PSYCHOSOCIAL LEARNING ENVIRONMENT

ASSESSMENT INDICATORS	ANNOTATION	NOTES/CLARIFICATION
III.A.3 Comments to or about students are free of sarcasm, ridicule, and derogatory, demeaning or humiliating references	A teacher should *always* be sensitive to the needs and feelings of students. Direct or indirect remarks or comments made to or about students should *never* be derogatory or contain demeaning sarcasm. *Nonverbal behavior may also be used in a negative manner.* Direct remarks include verbal and/or nonverbal communications directed to other students or to the class as a group. Indirect remarks include remarks made by *inference* to a student, to other students or to the class as a group. The teacher should encourage students to positively interact with each other in this regard as appropriate. **ONE SUCH INSTANCE IS SUFFICIENT TO ASSESS THIS INDICATOR AS UNACCEPTABLE.**	
III.A.4 Enthusiasm for teaching, learning and the subject being taught is communicated to students	Enthusiasm is *communicated to students* through the use of verbal and nonverbal behaviors such as changes in voice inflections, positive gestures, movement about the classroom and facial expressions of interest and excitement about teaching, learning and the subject taught. *The teacher's performance should be characterized by enthusiasm throughout the lesson.* *Enthusiasm for content might be displayed without gesturing and moving about the room.* Communicating interest in and excitement about students' learning, participation and contributions is an example of enthusiasm for learning.	

TEACHING AND LEARNING COMPONENT III.A: PSYCHOSOCIAL LEARNING ENVIRONMENT

ASSESSMENT INDICATORS	ANNOTATION	NOTES/CLARIFICATION
III.A.9 Is fair and impartial in interactions with students	Effective teaching and learning occur within an equitable classroom environment. A teacher should remain impartial in implementing learning activities. Providing *ample opportunities for all students to participate* demonstrates an element of fairness. **"Ample opportunities" implies an adequate number and kind to meet student needs and lesson objectives.** For example, the teacher should not show favoritism in calling on students or in reprimanding, redirecting, or revisiting students. ONE OR MORE OBVIOUS SIGNS OF UNFAIRNESS OR PARTIALITY ARE SUFFICIENT TO ASSESS THIS INDICATOR AS UNACCEPTABLE.	
III.A.10 Students are given reasons for teacher actions, decisions, or directives as needed	Actions, decisions, and directives by the teacher should follow logically, be consistent with behavioral expectations for students, and be non-arbitrary. Explaining actions, decisions, and directives creates an equitable learning environment in which clear behavioral expectations are reinforced and behavioral consequences are understood. ONE OR MORE ARBITRARY ACTIONS, DECISIONS OR DIRECTIVES BY THE TEACHER ARE SUFFICIENT TO ASSESS THIS INDICATOR AS UNACCEPTABLE.	

TEACHING AND LEARNING COMPONENT III.B: PHYSICAL LEARNING ENVIRONMENT

COMMENTS: A physical learning environment that enhances learning for all students is clean, safe, attractive, and arranged in an orderly manner. The teacher and students are considered functional elements of the total physical learning environment. **The assessor should only consider factors and conditions directly under the teacher's control when assessing indicators III.B.1-B.3.**

RESEARCH BASE

Current research on effective teaching provides evidence that efficient physical learning environments enhance effective learning. Efficient and effective use of student activity stations, bulletin board displays, and materials storage areas, etc. serve to facilitate and enhance student learning (Brophy, 1983; Doyle, 1986; Good & Brophy, 1984, 1986). Studies by L. M. Anderson, Evertson, and Emmer (1979) and Goss and Ingersoll (1981) demonstrate that a well-defined physical classroom structure correlates positively with student engagement. Additionally, a study by Morine-Dershimer (1977) shows that teachers who deliberately plan and make use of specific student seating arrangements to highlight and facilitate teaching and learning activities consistently produce higher student achievement levels than teachers who do not.

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TEACHING AND LEARNING COMPONENT III.B: PHYSICAL LEARNING ENVIRONMENT

ASSESSMENT INDICATORS	ANNOTATION	NOTES/CLARIFICATION
III.B.3 The functional elements of the learning environment are arranged to implement learning activities effectively	Functional elements of the learning environment include available space, furniture, work stations, and arrangements of aids, materials, equipment, and even students, the teacher and teacher aides. Students, the teacher, and others should have easy access to functional elements of the learning environment so they can easily see demonstrations and are able to move about the classroom with little difficulty during teaching and learning. The teacher and students should be arranged so they can communicate with each other during learning tasks as appropriate. Group size for learning tasks should enhance learning. For example, if too many students are assigned to a work station, learning might be impeded (unacceptable behavior might occur, or some students might be active participants while others might stand idly and wait to participate). *This indicator is an important element of learning time and student engagement in learning tasks.* Classroom arrangements for which the teacher is responsible should reasonably accommodate students with physical handicaps and students with special problems if there are students with special needs. Providing special seating for visually-impaired students, making conscious efforts to face hearing-impaired students when speaking, and arranging desks to accommodate physically handicapped students are examples. **IF THE FUNCTIONAL ELEMENTS OF THE LEARNING ENVIRONMENT ARE ORGANIZED IN A WAY THAT WASTES TIME AND/OR INTERFERES WITH LEARNING, OR** **IF STUDENTS WITH SPECIAL NEEDS DO NOT HAVE EASY ACCESS TO THE TOTAL LEARNING ENVIRONMENT, THIS INDICATOR IS UNACCEPTABLE.**	